

WHAT IS CLAIMED IS

5 1. A feedlot computer network installation for managing feedlot operations within a feedlot having a plurality of animal pens each having a feedbunk and containing one or more animals for feeding and health maintenance, said feedlot computer network installation comprising:

10 a feedbunk reading computer system, installed onboard a feedbunk reading vehicle transportable to each said animal pen in said feedlot, said feedbunk reading computer system including means for receiving, storing and displaying said animal health data and feed ration dispensed data;

15 a means for producing, storing and displaying feed ration delivery data, said feed ration delivery data specifying the assigned amount of feed ration to be delivered to the feedbunks associated with a plurality of animal pens along a feeding route during a specified number of feeding cycles to be executed within a predetermined time period, and said feed ration dispensed data indicating the actual amount of feed ration delivered to the feedbunks of said animal pens during each said specified feeding cycle;

20 a plurality of feed delivery vehicles each having a computer system, each said feed delivery vehicle computer system being installed onboard each said feed delivery vehicle and transportable to each said animal pen in said feedlot and having storage means

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for storing an assigned feed load, and feed metering means for metering the actual amount of feed ration delivered to the feed-
bunks associated with said specified sequence of animal pens, and
data producing means for producing said feed ration dispensed data
indicative of the actual amount of feed ration delivered to said
feedbunks, each said feed delivery vehicle computer system being
operatable by a feed delivery vehicle operator assigned to said
feed delivery vehicle and having means for receiving, storing and
displaying said feed ration delivery data provided from said feed-
bunk reading computer system, and means for receiving said feed
ration dispensed data produced from said metering means aboard said
feed delivery vehicle;

a feedmill computer system, installed at a feedmill in said
feedlot and having means for receiving, storing and displaying said
feed ration delivery data produced from said feedbunk reading com-
puter system;

a feedlot management computer system, installed aboard a feed-
lot management vehicle team, for receiving, storing and displaying
said feed ration delivery data, said feed ration dispensed data and
said animal health data, for use by a feedlot manager of said feed-
lot;

a digital data communications system integrated with said
feedlot computer network, for transferring digital data files among

50 said feedbunk reading computer system, said feedmill computer system, said plurality of feed delivery vehicle computer systems, said feedlot management computer system and said feedmill computer system, wherein said digital data file contain said feed ration delivery data, said animal health data and said feed ration dispensed data; and

35 a, database for maintaining information representative of a model of said feedlot and objects contained therein, wherein each said computer system installed on-board each said plurality of feed delivery vehicles, includes a subsystem for viewing an aspect of said model maintained in said database, vehicle information acquisition means for acquiring vehicle information regarding (i) the position of said feed delivery vehicle relative to a first pre-specified coordinate reference frame, (and/or (ii) the state of operation of said feed delivery vehicle, and information trans-
60 mission means for transmitting said vehicle information to said database to specify in the position and/or the state of operation of said feed delivery vehicle represented within said model of said feedlot.

2. The feedlot computer network installation of claim 1, wherein said vehicle information acquisition means comprises a satellite-based global positioning system, and said database is periodically

up-dated using said vehicle information obtained from said satellite-based global positioning system.

3. The feedlot computer network installation of claim 2, which further comprises animal information acquisition means for acquiring animal information regarding the position of animals in said feedlot relative to second prespecified coordinate reference frame, and/or the body-temperature of said animals so that said feedlot model reflects the position and/or body-temperature of said animals.

4. The feedlot computer network installation of claim 1, wherein said subsystem onboard each said feed delivery vehicle comprises a stereoscopic display subsystem which permits the driver to stereoscopically view any aspect of said model, including the driver's vehicle as it is being navigated through the feedlot during feedlot operations.

5. The feedlot computer network installation of claim 4, wherein each said feed delivery vehicle is remotely controlled through the feedlot by an operator using a remotely situated workstation.

6. The feedlot computer network installation of claim 5, wherein each said feed delivery vehicle is equipped with stereoscopic vision subsystem having a field of view along the navigational course of said feedlot vehicle.

7. The feedlot computer network installation of claim 6, wherein said database is maintained aboard an Internet server operably associated with an Internet-based digital communications network, with which each said subsystem is in communication.

8. The feedlot computer network installation of claim 6, wherein a replica of said database is maintained aboard each said feedlot vehicle.

9. The feedlot computer network installation of claim 3, wherein said subsystem can be used to ascertain both vehicle and animal information reflected in said model of the feedlot.

10. The feedlot computer network installation of claim 1, which further comprises at least one workstation for viewing said model of said feedlot during feedlot operations.

11. The feedlot computer network installation of claim 1, which further comprises at least one workstation for viewing said model of a feedlot vehicle in said feedlot and remotely navigating said feed-lot vehicle along a course in said feedlot.

12. An animal feedlot management system, which comprises:

a plurality of feedlot vehicles, each employing an on-board computer system which includes:

5 a feedlot computer network comprised of a feedbunk reading computer system, a means for producing, storing and displaying feed ration delivery data, a feedmill computer system, a feedlot management computer system, a digital data communications system integrated with said feedlot computer network,

10 a feedlot modelling subsystem for maintaining a geometrical database containing a geometrical model of the feedlot and objects contained therein,

15 a coordinate acquisition subsystem for acquiring coordinate information specifying the position of the feedlot vehicle relative to a coordinate reference system symbolically embedded within the feedlot, and

geometrical database processor for processing information in said geometrical database using said coordinate information in order to update said geometrical model.

